cles. The more highly a bar is magnetized, the more it becomes susceptible of a loss of power by agitation.

"An Account of a Protracting Pocket Sextant." By Colonel Bainbridge. Communicated by P. M. Roget, M.D., Sec. R.S.

The object of the invention here described is to facilitate and expedite the making of sketches and surveys for military purposes on actual service, and by serving at once as a sextant and protractor, so that as soon as an angle is taken, it may at once be laid down on paper by employing the two legs of the instrument as rulers. A description referring to a diagram is given of this portable sextant.

"Observations on the Growth and Development of the Epidermis." By Erasmus Wilson, Esq., F.R.S., Lecturer on Anatomy and Physiology in the Middlesex Hospital.

The author adduces evidence derived from his microscopic observations, in confirmation of the commonly received doctrine respecting the origin of the cells of the epidermis and epithelium generally, from the materials furnished by the liquor sanguinis or plasma of the blood; which fluid, passing by endosmosis through the walls of the capillary vessels and peripheral boundary of the surface, developes granules by a vital process, analogous to coagulation. On a careful examination of the inner surface of the epidermis with the aid of the microscope, he finds it to be composed of four kinds of elements, arranged in such a manner as to constitute an irregular plane, similar to a tesselated or mosaic pavement. These elements are,—1. *Granules*, which the author terms *primitive*, of a globular form, solid and apparently homogeneous, and measuring about 1-20,000th part of an inch in diameter. 2. *Aggregated granules*, having about double the diameter of the former and apparently composed of as many of these as can be aggregated together without leaving an unoccupied space in the centre of the mass. 3. *Nucleated granules* measuring in diameter from the 6000th to the 4000th part of an inch, each being composed of an aggregated granule as a nucleus, enveloped by a single layer of aggregated granules, giving to the whole mass an oval or circular, and at the same time flattened shape. Their constituent granules have acquired, during this aggregation, greater density, and are separated from each other by distinct interstitial spaces filled with a transparent homogeneous substance. 4. *Nucleolo-nucleolated* cells pervading the deep stratum of the epidermis, and of which the longer diameter measures from the 3000th to the 2500th part of an inch. These cells, which constitute the principal portion, and may be regarded as the chief constituent of the epidermis, are formed from the nucleolated granules, on the exterior of which there is superposed a transparent layer, bounded by a well-defined outline, by the dark interstitial substance of the wall of the cell; the nucleolated granule being the nucleus, and the aggregated granule the nucleolus of these primitive cells of the epidermis. The author is of opinion that the nuclei, up to a certain point, grow with the cells, by the separation of the original granules from the deposi-